

Public Comments on Docket number 12-91

Questions answered below in order presented by FCC.

Commenters: Kathy Bross, N7AYR and Arthur Bross, KC7GF, with combined radio experience of over 80 years in Amateur radio. Both have 10 years experience as volunteer fire fighters working with federal and state agencies.

1. Importance of emergency Amateur Radio Service communications. As noted above, the statute requires a review of the importance of emergency Amateur Radio Service communications relating to disasters, severe weather, and other threats to lives and property.

One only has to read the first paragraph of Title 45 CFR Part 97 to see what the FCC had in mind when forming the rules for the amateur service.

§97.1 Basis and purpose.-

The rules and regulations in this Part are designed to provide an amateur radio service having a fundamental purpose as expressed in the following principles:

- (a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.
- (b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.
- (c) Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communications and technical phases of the art.
- (d) Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.
- (e) Continuation and extension of the amateur's unique ability to enhance international goodwill.

With those goals in mind many of the answers to the following questions are self completing.

a. What are examples of disasters, severe weather, and other threats to life and property in which the Amateur Radio Service provided communications services that were important to emergency response or disaster relief? Provide examples of the important benefits of these services.

Amateur Radio Service has always been involved in both large and small disasters from local emergencies like wildfires, floods or tornados, to large events like Hurricane Katrina, 9/11 and the Mount St. Helens eruption. When public service radio systems, cell phone and land line infrastructures goes down, Amateur radio operators have always been able to provide emergency communications until those services can be brought back up. During outbreaks of tornados an amateur organization called Skywarn provides the National Weather Service with firsthand accounts of sightings and damage assessments after the storm passes, all by Amateur Radio. "Hams" as they are known put in countless thousands of hours of volunteer time each year supporting emergency communications.

b. Under what circumstances does the Amateur Radio Service provide advantages over other communications systems in supporting emergency response or disaster relief activities?

The biggest advantage of Amateur Radio is that all Amateur Radios use transmission modes that are compatible. Unlike most digital trunked radio systems in use today whose different radio brands cannot talk to each other. Also most Amateur radio operators are capable of operating as their own self contained communications facilities. They provide their own power and their own equipment and don't rely on any other infrastructure to operate. They rely solely on their own equipment and abilities. Most people say they will fall back on the cellular phone system but what they don't understand is that cell phones rely on the vast infrastructure of cell towers. What people don't realize is that most of these sites only have about 3 hours of battery backup when the power mains fail. Such was the case in New Orleans when Katrina came ashore and destroyed the power lines. Not only were the cell towers initially completely overloaded but they quit one by one as their battery supplies failed. This same scenario has been seen many times with each major disaster that hits the US. Amateurs are mobile self contained communication centers with access to many modes and thousands of frequencies to handle any type of emergency communications.

Under what circumstances does the Amateur Radio Service complement other forms of communications systems for emergency response or disaster relief?

Radio amateurs have stepped in and supplemented communications when phone lines have been cut at hospitals. They have provided the first reports of tornado damage in the Colorado town of Limon. Amateur radio has always been the main communications backup of responses by the American Red Cross. The Red Cross is usually the first relief agency on scene before infrastructure repairs are completed and Amateur Radio Operators come along with them to provide communications.

c. What Federal Government plans, policies, and training programs involving emergency response and disaster relief currently include use of the Amateur Radio Service?

Many federal and state plans are already backed up by existing amateur organizations. Two organizations exist, the Amateur Radio Emergency Service (ARES) along with the

federally backed Radio Amateur Civil Emergency Services (RACES) They have been in existence for many years and provide a means for cooperation between the served agencies and the Amateur Radio Service. No additional plans need to be implemented. All government and state agencies just need to be made aware that these service organizations already exist and should be directed to make them the first line of backup. Many agencies already know this and use them exclusively such as Colorado and Arizona state EOCs. (Emergency Operations Centers)

What additional plans, policies, and training programs would benefit from the inclusion of Amateur Radio Service operations?

Many amateurs already participate in the Incident Command System (ICS) which is used extensively by federal agencies, like the National Forest Service, and is already incorporated in the training of federal and state agencies. The use of ICS should be a standard requirement for all amateurs to insure consistency and compatibility between agencies and the Amateurs that support them.

How would Amateur Radio Service operations fit into these plans and programs?

They already do. There are many members of emergency services organizations that are also Amateur Radio operators. Amateur Radio and their services just need to be officially recognized by their served agencies. Information should be set forth in both state and federal government documents as to the existence of their services and how to access them.

d. What State, tribal, and local government plans, policies, and training programs involving emergency response and disaster relief currently include use of the Amateur Radio Service?

Many county governments, sheriff agencies and fire departments already actively train with amateur radio operators and have amateur radio equipment already setup at their base locations to use in any emergency. Many local hospitals and fire stations also have amateur radio equipment donated and installed on site for backup communications. Search and rescue organizations use Amateur Radio APRS for tracking searchers and dogs. (Automatic Position Reporting System)

What additional plans and programs would benefit from the inclusion of Amateur Radio Service operations?

Homeland Security once said they were looking for a reliable emergency communications backup system. Perhaps no one told them that we existed and that we were available for their use. (at no expense)

How would Amateur Radio Service operations fit into these plans and programs?

Amateur radio is a perfect fit for all these government agencies. Amateur Radio is a compatible, reliable, mobile, communications system which is available at a moment's notice with sources from all over the U.S. Why invent another service?

e. What changes to the Commission's emergency communications rules for the Amateur Radio Service (Part 97, Subpart E) would enhance the ability of amateur operators to support emergency and disaster response?

Include the use of the Alaska Emergency frequency of 5.1675 to the rest of the United States. Provide for a waiver to use encrypted transmissions during emergencies when handling sensitive personal information especially about patient status.

In addition, are there any specific changes that could be made to the technical and operational rules for the Amateur Radio Service (Part 97, Subparts B, C, and D) that would enhance the ability of amateur operators to support emergency and disaster response?

Specify what does NOT constitute an emergency. (None life and property items like flat tires, late for work, ect)

What other steps could be taken to enhance the voluntary deployment and effectiveness of Amateur Radio Service operators during disasters and emergencies?

Issuance of government issued identification recognized by ALL federal agencies. Many amateurs who showed up to help at Katrina were turned away because they only had local identification not recognized by the federal agencies.

f. What training from government or other sources is available for Amateur Radio Service operators for emergency and disaster relief communications?

Incident Command System training already exists within the federal and state training programs and should be made available to and required by the Amateur community.

How could this training be enhanced? Should national training standards be developed for emergency communications response?

Standards are already in place, just extend them to the Amateur community and make them a requirement for participation in emergency communications.

g. What communications capabilities, e.g., voice, video, or data, are available from Amateur Radio Service operators during emergencies and disasters?

Voice, data and television, are already in use by amateur radio operators and it's all portable. Additionally, amateur radio operators provide their own power sources, so they can go anywhere and are ready within minutes of arrival.

Are there any future technical innovations that might further improve the Amateur Radio Service?

The ones we haven't invented yet. Most major technological communication breakthroughs were made by an amateur radio operator, even though they may have been doing it for an employer.

h. Are national standards in data transmission needed to enhance the ability of Amateur Radio Service operators to respond to emergencies and disasters?

Data standards already exist among all amateur modes.

Are there restrictions with regard to transmission speeds that, if removed, would increase the ability of operators to support emergency/disaster response?

Speed restrictions are created by bandwidth limitations. Removing those restrictions would allow for increasing data speeds. Possibly setting aside some federal frequencies for specific modes or high speed uses only during emergencies.

If so, what issues could arise from removing these restrictions?

Potentially we would need new frequencies set aside specifically for emergency communications for the wider amateur radio service modes such as video. Amateur operators would need to be highly trained to be able to use frequencies and modes.

i. Would it enhance emergency response and disaster relief activities if Amateur Radio Service operators were able to interconnect with public safety land mobile radio systems or hospital and health care communications systems?

We believe that this would benefit both the amateur and public safety sectors in emergency situations. BUT, the amateurs need to have standardized training in emergency operational procedures and in the terminology for the agency they are supporting. Possibly one designated individual in a group who has experience working both with amateur radio and government agencies. This already takes place in a fashion where volunteers are members of such things as the Sheriff's posse and they are also members of an Amateur Radio emergency organization and have to carry radios for both.

What could be done to enable or enhance such interconnections?

Possibly a requirement for Amateur Radios to have FCC certification (FCC type acceptance) so their radios could be used on public safety frequencies in a declared emergency or an automatic waiver for interconnection with commercial systems when an agency declares an emergency.

What issues could arise from permitting such interconnections?

Unintentional interference if the amateur radio operator accidentally transmits on public service frequencies when not an emergency. Extensive training or certification would be needed for individuals.

j. Should there be national certification programs to standardize amateur radio emergency communications training, mobilization, and operations?

There already are procedures and policies in place at the federal and state level using the existing Incident Command System (ICS). This has worked for the state and federal agencies which have to work together on emergency situations. What needs to be done is to make these training programs available to the Amateur community and make them a requirement to participate in emergency communications. Too many varying standards and procedures still exist among the old amateur communities.

How would such programs improve emergency communications?

Everyone would be on the same page. Standardization, Standardization, Standardization,

2. Impediments to enhanced Amateur Radio Service communications. The statute also requires that the study identify impediments to enhanced Amateur Radio Service communications and recommendations regarding the removal of such impediments.

a. What private land use restrictions on residential antenna installations have amateur radio operators encountered?

The biggest limitation has been the existence of Home Owners Associations (HOAs). Covenants, Conditions & Restrictions (CC&Rs) that limit or completely forbid antennas of any kind whatsoever. The second biggest limitation is height restrictions, by either state or local governments or HOAs. In our community we have a 20 foot height limitation on all transmitting and receiving antennas. This limitation prevents optimum communications on low frequency bands.

What information is available regarding the prevalence of such restrictions?

Almost every new community has a long list of CC&Rs. Some states require them from the developers before building. Unfortunately, frequently a buyer can't see them until they are at closing. They need to be made public up front, since many have antenna restrictions.

What are the effects of unreasonable and unnecessary restrictions on the amateur radio community's ability to use the Amateur Radio Service?

Height limitations are always the main limiting factor as to what frequencies can be used. The lower the frequency, the bigger the antenna (an antenna should be able to be placed as high in the air as the antenna is long). While a lot of emergency communications can be done with small short range antennas, to get long range radio communications out of state or out of the nation requires low frequencies and a large antenna. Amateurs who are limited in height are limited in range.

Specifically, do these restrictions affect the amateur radio community's ability to respond to disasters, severe weather, and other threats to lives and property in the United States?

Of course. They affect the size of the antenna and the locations that it can be used which effects what frequencies can be used, which ultimately affects the range and the Amateur's ability to communicate.

What actions can be taken to minimize the effects of these restrictions?

Make PRB-1, which has already been adopted by the FCC, an enforceable federal rule that applies to all communities and HOAs, The FCC enforced the availability of satellite dishes and TV antennas for everyone. They could just as easily extend this preemption to amateur radio antennas.

What criteria distinguish "unreasonable or unnecessary" private land use restrictions from reasonable and necessary restrictions?

Unreasonable is the use of the word "none". Reasonable specifies the allowance for antennas with limited height and size.

How do local circumstances, such as neighborhood density or historic significance, affect whether a private land use restriction is reasonable or necessary?

Regulations already exist for the preservation of historical properties. The FCC rule for OTARD (over the air receiving devices) contains language that protects historical structures and objects. OTARD could easily be extended to include the installation of Amateur Radio antennas. Amateur radio operators can take those restrictions into consideration when putting up their antennas in sensitive areas.

How does the availability of alternative transmitting locations or power sources affect the reasonableness of a particular private land use restriction?

Alternate transmitting locations and power sources do not take into account the urgency of emergency communications. What works in one situation may not be available in another. There is also the need for practice and training for emergency situations using familiar equipment. Alternate locations do not allow for the use of tested already in use equipment or emergency power sources which may already be set up at a home

location. In order for 'emergency communications' to be effective, there needs to be participation in training prior to the emergency event. Alternative transmitting locations do not provide for effective training unless they are made permanent. Each community would need to set aside a permanent location for emergency communications and allow for training from this location at all times.

c. What steps can amateur radio operators take to minimize the risk that an antenna installation will encounter unreasonable or unnecessary private land use restrictions?

We feel that antennas regulations can be instituted that will not allow antennas to be situated so that they overhang neighbor's properties. We also feel there should be allowance for the distance from any tower structure to the lot edge in case a tower or antenna support should fall. Height of tower = distance to the closest lot edge.

For example, what obstacles exist to using a transmitter at a location not subject to such restrictions, or placing an antenna on a structure used by commercial mobile radio service providers or government entities?

Most commercial or government entities refuse use of their facilities citing insurance and liability issues when amateurs try to get permission to use them. Perhaps a waiver of liability for any amateur using commercial facilities.

d. Do any Commission rules create impediments to enhanced Amateur Radio Service communications?

Emission bandwidth standards restrict where high speed transmissions can be used. These could be changed to allow for high speed digital modes to be the same bandwidth as Single Side Band or AM signals and use the same frequencies. This would allow for higher speed data communications. OR set aside specific channels (frequencies) in or out of the amateur bands to be used only when emergency situations are declared. (Local or national)

What are the effects of these rules on the amateur radio community's ability to use the Amateur Radio Service?

These width standards limit the type of transmissions available in times of emergencies in portions of each band.

Do disaster and/or severe weather situations present any special circumstances wherein Commission rules may create impediments that would not otherwise exist in non-disaster situations?

Unknown

What actions can be taken to minimize the effects of these rules?

e. What other impediments to enhanced Amateur Radio Service communications have amateur radio operators encountered?

One of the biggest impediments to Amateur Radio communication is the common attitude fostered by the non technical public that if there is a "ham" in the neighborhood then he is the source of all problems affecting everything, including the clogged garbage disposal. When in fact the fault is most commonly in the poor manufacturing standards of the machine being interfered with. Amateur Radio equipment has to meet very stringent emissions standards and it has consistently been shown that the fault lies within the poor manufacturing quality of the device being interfered with. A certain minimal level of filtering for radio signals should be required in all electronic devices.

What are the effects of these impediments on the amateur radio community's ability to use the Amateur Radio Service?

Instead of requiring manufactures to improve their equipment, amateurs are expected to stay off the air or curtail their operating hours because they are thought to interfere with equipment built to poor manufacturing standards.

Specifically, do these impediments affect the amateur radio community's ability to respond to disasters, severe weather, and other threats to lives and property in the United States?

If you're not allowed to operate and practice because of perceived problems then you are not of much use in times of emergency.

What actions can be taken to minimize the effect of these impediments?

Make the public aware of the difference between regulated Amateur Radio and unregulated CB. There are still thousands of CBers out there using dirty overpowered amplifiers that interfere with entire neighborhoods. The public knows no distinction between these illegal CB operators and the legally licensed amateur radio operators. There is no sign of any FCC enforcement being done to curtail these illegal CB operators or stop the sale of the illegally manufactured and modified radios and amplifiers they use.

f. The legislation requires the Commission to identify "impediments to enhanced Amateur Radio Service communications." What specific "enhance[ments]" to Amateur Radio Service communications have been obstructed by the impediments discussed above?